UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
BIN C15700
Seattle, WA 98115-0070

Refer to:
OSB2001-0102-FEC

July 12, 2001

Mr. Lawrence C. Evans
Chief, Regulatory Branch
US Corps of Engineers, Portland District
P.O. Box 2946
Portland, OR 97208-2946

Re: Endangered Species Act Section 7 Formal Consultation and Formal Conference, and Magnuson-Stevens Act Essential Fish Habitat Consultation for Hogan Cedars Dam Removal and Fish Passage Improvement Project, City of Gresham, Multnomah County, Oregon (Corps No. 2001-00425)

Dear Mr. Evans:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) for the Hogan Cedars Dam Removal and Fish Passage Improvement Project, City of Gresham, Multnomah County, Oregon. NMFS concludes in this Opinion that the proposed action is not likely to jeopardize the continued existence of Lower Columbia River (LCR) chinook salmon (*Oncorhynchus tshawytscha)* or LCR steelhead (*O. mykiss)*, or destroy or adversely modify critical habitats. As requested, this Opinion also serves as a conference opinion and concludes that the proposed action would not be likely to jeopardize the continued existence of Lower Columbia River/Southwest Washington (LCR/SWW) coho salmon (*O. kisutch*), a candidate for listing, or destroy or adversely modify critical habitat, should it be proposed.

Pursuant to section 7 of the ESA, NMFS has included reasonable and prudent measures with non-discretionary terms and conditions that NMFS believes are necessary and appropriate to minimize the potential for incidental take associated with this project. If this conference opinion is adopted as a biological opinion following listing of LCR/SWW coho salmon, these measures and their implementing terms and conditions will apply to that species too.

This Opinion also serves as consultation on Essential Fish Habitat for coho salmon and chinook salmon pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR Part 600).

Questions regarding this letter should be directed to Pat Oman of my staff in the Oregon Habitat Branch at 503.231.2313.

Sincerely,

for Michael R Crouse

Donna Darm
Acting Regional Administrator

Endangered Species Act Section 7 Consultation & Magnuson - Stevens Act Essential Fish Habitat Consultation

BIOLOGICAL OPINION AND CONFERENCE OPINION

Hogan Cedars Dam Removal and Fish Passage Improvement Project
City of Gresham
Multnomah County, Oregon

Agency: U.S. US Army Corps of Engineers (COE)

Consultation Conducted By: National Marine Fisheries Service, Northwest Region

Date Issued: July 12, 2001

Refer to: OSB2000-0102-FEC

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1. ENDANGERED SPECIES ACT

1.1 Background

On May 24, 2001, the National Marine Fisheries Service received a request from the U.S. Army Corps of Engineers (COE) for initiation of Endangered Species Act (ESA) section 7 informal consultation for the Hogan Cedars Dam removal and fish passage improvement project. The project applicant is the Metro Regional Parks and Greenspaces (Metro). Metro, with funding from the Oregon Watershed Enhancement Board (OWEB), has designed the project and will carry out the work. The work will require a permit under section 404 of the Clean Water Act. In an email dated June 26, 2001, the Corps of Engineers notified NMFS that this project would require formal consultation.[1]

The project is within the City of Gresham, on Johnson Creek approximately 150-feet downstream of where S.E. Ambleside Drive crosses Johnson Creek. Johnson Creek originates in small streams near the towns of Cotrell and Boring and flows generally westward 25-miles to its confluence with the Willamette River. Hogan Cedars Dam on Johnson Creek south of a small island, approximately 170-feet long, which splits the creek into two channels. The northern channel in this location is also dammed. These dams create a 300-foot long pool. The Oregon Department of Fish and Wildlife (ODFW) has identified these dams as barriers to the upstream migration of steelhead, coho, and sea run cutthroat trout. The proposed project would remove the dam in the south channel to provide for improved fish passage conditions. As part of the habitat restoration measures, nonnative plant species, including English ivy, will be eradicated, and the site replanted with native vegetation.

Lower Columbia River (LCR) chinook salmon (*Oncorhynchus tshawytscha)* and LCR steelhead (*O. mykiss)* occur within the project area and are listed under the ESA as threatened. Lower Columbia River/Southwest Washington (LCR/SWW) coho (*O. kisutch*) also occurs within the project action area and is a candidate for listing under the ESA. The action area is also within designated critical habitats for LCR chinook salmon and LCR steelhead, and within the range that may be proposed as critical habitat for LCR/SWW coho salmon if that species is proposed for listing.

This biological opinion (Opinion) is based on the information presented in the original biological evaluation (BE) and developed during the consultation process. The consultation process includes electronic correspondence and phone communications to obtain additional information and clarify the BE. The objective of this Opinion is to determine whether the action to remove the dam and create a downstream riffle is likely to jeopardize the continued existence of the LCR chinook salmon, LCR steelhead or LCR/SWW coho salmon, or destroy or adversely modify critical habitats.

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[1] Email from Judy Linton, Corps of Engineers, to Pat Oman, National Marine Fisheries Service (June 26, 2001) (Hogan Cedars Dam; Corps Project Number 2001-00425).

1.2 Proposed Action

The proposed action will remove a small dam at one location in Johnson Creek at the project location described above. Hogan Cedars Dam is approximately 5-feet high and 20-feet long. The area around the day will be isolated from active flowing water during the removal activity. The project will establish staging areas and erosion control measures before the start of construction. Riparian vegetation to be salvaged or protected will be flagged. Salvaged materials will be stored off-site until the project area is ready for restoration. Dewatering measures will include coffer dams that redirect the flow of Johnson Creek to the northern channel. The turbidity of dewatering discharge will be monitored to ensure compliance with water quality standards. Fine sediments that have accumulated upstream of the south channel will be excavated and removed to an approved spoil disposal site. The dam concrete crest and spillway face will be demolished using heavy equipment (not explosives) and stream substrate material consisting of cobble and boulders will be used to line the reconstructed southern channel. Placement of this material will create a riffle downstream of the dam along a 150-foot long section of the creek. Rooted willows will be placed in gravel bar areas and large woody material will be added to the resting pool. Throughout construction the levels of turbidity will be monitored to ensure consistency with water quality standards.

After dam removal, riparian corridor enhancement activities will include removal of exotic plant species, installation of riparian fencing on nearby private property to limit livestock access to the area, and replanting with native vegetation. Cattle will still have access to Johnson Creek but they will be limited to one area to reduce adverse affects to stream banks.

The entire operation, from staging to the creation of a downstream riffle, is estimated to take no longer than six weeks and will be completed within the in-water work period of July 15 to August 31.

The following conservation measures are intended to avoid or minimize the adverse effects of these activities on LCR chinook, LCR/SWW coho, and LCR steelhead, and aquatic habitats and are included as part of the proposed action.

1. All work will be conducted within the 2-year floodplain during the ODFW-prescribed in-water work period of July 15 to August 31.

2. Nonnative riparian vegetation within the project area will be removed and replaced with native species.

3. Fish handling will be completed using methods more conservative than those described in the NMFS guidance on electroshocking (NMFS 2000).

1.3 Biological Information and Critical Habitat

Within the Johnson Creek drainage, including the project area, NMFS listed the LCR chinook salmon as threatened on March 24, 1999 (64 FR 14308) and the LCR steelhead as threatened on March 19, 1998 (63 FR 13347). Critical habitats were designated for these species on February 16, 2000 (65 FR 7764) and protective regulations were issued on July 10, 2000 (65 FR 42422). The proposed work would be done within designated critical habitats. Critical habitat includes all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: shade, sediment, nutrient/chemical regulation, streambank stability, and input of large woody debris/organic matter. LCR/SWW coho salmon also occurs in the project area and is a candidate species under consideration for listing (July 25, 1995, 60 FR 38011 and 38022; see, also, November 3, 2000, 65 FR 66221). This consultation is undertaken pursuant to section 7(a)(2) of the ESA and its implementing regulations, 50 CFR Part 402.

Biological information on LCR chinook salmon may be found in the Status Review of Chinook Salmon from Washington, Idaho, Oregon, and California (Myers et al. 1998). Information on LCR steelhead is in NMFS status reviews for west coast steelhead in Busby et al. (1995a, 1996a). Information for LCR/SWW coho salmon is available in status reviews by Johnson et al. (1991), Weitcamp et al. (1995) and Busby et al. (1996b).

1.4 Evaluating Proposed Action

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species or destroy or adversely modify critical habitats. This analysis involves the: (1) Definition of the biological requirements and current status of the listed species; and (2) evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair

the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat, it must identify any reasonable and prudent alternatives available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, and juvenile rearing of the LCR chinook salmon and LCR steelhead.

1.4.1 Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list LCR chinook salmon and LCR steelhead for ESA protection and also considers new data available that is relevant to the determination (Myers et al., 1998, and Busby et al. 1995, 1996).

The relevant biological requirements are those necessary for LCR chinook salmon and LCR steelhead to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration, spawning, holding, and rearing. The current status of the LCR chinook salmon and LCR steelhead, based upon their risk of extinction, has not significantly improved since the species were listed.

Natural production of LCR chinook salmon is difficult to assess due to the widespread augmentation of the run by hatchery stocks. This ESU includes salmon that return to the Sandy and Clackamas Rivers in Oregon. The easternmost extent of their range is the Kickitat River in Washington. A recent Fish Management and Evaluation Plan (FMEP) prepared by ODFW identified five natural chinook populations, of which only the West Cascade Tule Fall chinook population occurs within the project area (ODFW 2001).

LCR steelhead is a distinct population from steelhead above the Willamette Falls, with primary production areas in the Sandy River and the Clackamas River; these fish are now in a vulnerable condition. A recent draft steelhead status report done by ODFW (Chilcote 2001) has summarized the status of populations throughout the state as follows.

> In the early 1990s, most populations entered a period of decline. For populations in the lower Columbia and upper Willamette ESUs, this decline appears to have been a feature that started before 1990. However, the record for most other populations in Oregon suggests this decline may be part of a normal cyclic pattern. Rather than a chronic, long-term decline, like for the Willamette and lower Columbia populations, the pattern observed for most other populations suggests long-term cyclic phenomena. In the last five years several populations may be entering the ascending portion of this cycle.
>
> The greatest concentrations of vulnerable populations may be those that belonged to the mid-Columbia ESU. Two populations, the Deschutes and Umatilla, met the criteria for an endangered classification. Most populations in this ESU are at abundance levels that are less than 50% of maximum seeding. Nearly equal in vulnerability were the Upper Willamette populations. Only did two out five of these populations had levels of escapement greater than necessary for 50% of maximum seeding. In addition, one population, the North Santiam, met the criteria for a threatened classification. Although, the PVA [population viability analysis] analysis did not suggest that the two populations representing the lower Columbia ESU, the Sandy and Clackamas, were at risk of extinction, these populations show other troubling signs. Both exhibit a chronic downward trend in abundance with little indication an underlying cyclic pattern exists that might reverse this trend. In addition, within the last six years, both populations have experienced at least one escapement of wild fish that was less than the viable threshold. Therefore, these populations may be more vulnerable than the PVA analysis seems to suggest.

A review of LCR/SWW coho salmon (Weitkamp et al., 1995) summarized the ODFW annual coho spawning surveys in the lower Columbia River Basin as follows.

> The Clackamas River, a tributary of the Willamette River, may support a native run of coho salmon that is a remnant run of fish native to the lower Columbia River Basin. Natural spawning of coho salmon in this region declined precipitously in the early 1970s and has remained at extremely low levels.

LCR/SWW coho salmon were considered by NMFS for listing in 1991 (56 FR29553). Then, NMFS concluded that hatchery programs in the lower Columbia River had overwhelmed any naturally produced populations of coho, and that the LCR/SWW coho were therefore not warranted for listing under the ESA. More recently, information about the status of LCR/SWW coho presented in a petition to list these fish shows a remnant native population of coho may be in the Clackamas and Sandy Rivers, tributaries to the Willamette River. A report submitted to the Oregon Fish and Wildlife Commission included the results of fin-clipping hatchery fish to sort out the natural run from artificial production in the primary watersheds where LCR/SWW coho spawn (Chilcote1999). It concluded that the surviving populations in the Sandy and Clackamas “may represent the only naturally reproducing populations remaining in the entire

Columbia River Basin that can be documented." The LCR/SWW coho are now under consideration for listing by NMFS and are thus a candidate species.

1.4.2 Environmental Baseline

The current range-wide status of the identified ESUs may be found in Myers et al. (1998), Weitkamp et al. (1995), Busby et al. (1995, 1996) and in the FMEP cited above (ODFW 2001). The identified action will occur within the range of LCR chinook salmon, LCR/SWW coho salmon, and LCR steelhead.

The action area is the area that is directly and indirectly affected by the action. Direct effects occur at the project site and may extend upstream or downstream based on the potential for changing hydraulics and for generating sediment and pollutants. Indirect effects may occur throughout the watershed where actions described in this Opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed project includes the immediate watershed where the dam removal and other instream work will occur, and those areas upstream and downstream that may reasonably be affected temporarily or in the long term, including any areas affected by the movement of equipment and materials to and from the construction site. For the purposes of this Opinion, the action area is defined as the streambed and streambank of Johnson Creek extending upstream to the edge of disturbance and extending downstream 100-feet, and the staging areas, access roads, and upland disposal sites. Other areas of the Johnson Creek watershed are not expected to be directly or indirectly affected.

LCR chinook, LCR/SWW coho, and LCR steelhead are found in the Lower Columbia River, including the Willamette River below Willamette Falls. The project area is primarily migratory habitat for adult and juvenile steelhead and chinook salmon, and rearing habitat for juvenile salmonids. Some steelhead and coho spawning may occur in Johnson Creek. Steelhead have been observed spawning below NE 82nd Avenue and a single juvenile salmon collected in 1993 just below Gresham suggests that as late as 1992 there may have been coho spawning in the upper watershed. Low flow conditions in the fall prevent access to chinook salmon above river mile 1.0, although three adult chinook carcasses were observed below SE 82nd Avenue in 1992.

Johnson Creek's water quality is limited by the presence of elevated levels of fine sediment and nutrients (nitrogen and phosphorus), elevated summer water temperatures, and chemical contamination due to pesticides (DDT, DDT metabolites, and Dieldrin). This reach of Johnson Creek is listed on the Oregon Department of Environmental Quality's 303(d) list of water quality limited streams for toxics, bacteria (fecal coliform), and temperature (DEQ 2000).

Habitat assessments done by ODFW in 1999 identified this reach of Johnson Creek as one with many deficiencies due to impaired riparian and hydrological functions. However, the assessment noted that "Reach 16 [from Main City Park in Gresham to the SE Palmblad Road bridge crossing] contains the greatest refuge potential that we found within the mainstem survey. This

is due to the presence of large woody debris, backwaters, deep pools, and shade cover" (ODFW 1999).

Based on the best available information on the current status of LCR steelhead and LCR chinook salmon range-wide, the population status, trends, and genetics, and the poor environmental baseline within the action area, NMFS concludes that the biological requirements of the identified ESUs within the action area are not currently being met. Johnson Creek has degraded habitat resulting from agricultural and urban uses, water diversions, road construction, recreation, and flood control. The following habitat indicators are either at risk or not properly functioning within the action area: temperature, turbidity/sediment, chemical contamination/nutrients, physical barriers (migratory access), large woody debris, off-channel habitat, pool frequency and quality, refugia, streambank condition, floodplain connectivity, peak/base flows, drainage network, road density and location, disturbance history, and riparian reserves. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of LCR/SWW coho, LCR steelhead, and LCR chinook salmon.

1.5 Analysis of Effects

1.5.1 Effects of Proposed Action

The effects determination in this Opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale (NMFS 1996). The effects of actions are expressed in terms of the expected effect - restore, maintain, or degrade - on aquatic habitat factors in the project area.

The current status of the site is degraded because of the lack of riparian vegetation, the lack of large woody debris (instream structure), and the presence of fish passage barriers.

In the short term, removal of the Hogan Cedars Dam removal will cause some temporary effects to riparian and instream conditions. These include brief periods of sedimentation that are not expected to affect any spawning grounds downstream or to affect juvenile salmonids in the area. Measures to limit short-term impacts to habitat and instream conditions have been incorporated into the project design. All construction debris will be contained, and turbidity from construction will be controlled to limit disturbance to any fish in the vicinity. Fish from the dewatered channel will be captured by ODFW personnel and moved to an area upstream.

The proposed action has the potential to cause the following impacts to LCR chinook, LCR/SWW coho, and LCR steelhead, or designated critical habitats:

1. The in-water work has the potential to increase erosion from the streambed, and turbidity in the river. At moderate levels, turbidity has the potential to affect primary and secondary productivity adversely; at high levels it can injure and kill adult and juvenile fish and may also interfere with feeding (Spence et al. 1996). Behavioral effects on fish, such as gill flaring and feeding changes, have been observed in response to pulses of suspended sediment. Localized increases of erosion/turbidity during in-water work will likely displace LCR chinook, LCR/SWW coho, LCR steelhead, and other fish in the project area, and disrupt normal behavior. These effects are expected to be temporary (occurring during dam removal) and localized.

2. Handling fish to move them can result in death or delayed mortality resulting from the stress of being electroshocked and removed to another location. These effects are expected to be limited in scope because all work will take place within the ODFW in-water work period.

3. Removal of the dam and improvements to riparian vegetation will have immediate (within one year) and long-term beneficial effect on anadromous salmonids. These effects are expected to be permanent.

1.5.2 Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features of critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for LCR chinook salmon, LCR/SWW coho, and LCR steelhead consists of all waterways below naturally impassable barriers including the project area. The adjacent riparian zone is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter.

The proposed actions will affect critical habitats. In the short term, temporary increase of sediments and turbidity and disturbance of aquatic habitats is expected. The NMFS does not expect that these actions will diminish the value of riverine habitats for the survival and recovery of LCR chinook, LCR/SWW coho, or LCR steelhead and, over the long term, are likely to help restore proper functioning habitat conditions within the action area.

1.5.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area has been defined as immediate project area upstream to the edge of disturbance, including any staging areas, and

extending downstream 100-feet beyond the edge of disturbance, the area estimated to be subject indirectly to turbidity and sedimentation. Many actions occur within the Johnson Creek watershed, within which the action area is found. NMFS is not aware of any significant change in such non-federal activities that are reasonably certain to occur. NMFS assumes that future private and State actions will continue at similar intensities as in recent years. Future Metro habitat improvement projects are planned in the Johnson Creek watershed. Each of these projects will be reviewed through separate section 7 consultation processes and therefore are not considered cumulative effects.

1.6 Conclusion

After reviewing the current status of LCR chinook salmon, coho, and steelhead, the environmental baseline for the action area, the effects of the proposed Hogan Cedars Dam removal and riparian improvement actions and their cumulative effects, NMFS has determined that this project, as proposed, is not likely to jeopardize the continued existence of the LCR chinook salmon, LCR steelhead, or LCR/SWW coho, and is not likely to destroy or adversely modify designated critical habitats.

In summary, our conclusion is based on the following factors: (1) Any in-water work will be completed during ODFW's designated in-water work window for Johnson Creek; (2) in-water work areas will be isolated from the stream; (3) erosion and sediment control measures will minimize effects on salmon and steelhead habitat and minimize displacement of rearing juvenile salmon and steelhead should any be present in the proposed action area during in-water construction; (4) it is not anticipated that the proposed action will result in increased summer stream temperatures as removal of riparian vegetation will be limited and replacement plantings will occur; (5) potential effects from chemical contamination will be avoided or minimized as all refueling and servicing will not occur near any water bodies; and (6) the project is expected to restore or maintain properly functioning habitat conditions within the action area for LCR chinook, LCR steelhead and LCR/SWW coho salmon spawning, rearing, and migration.

1.7 Reinitiation of Consultation

This concludes formal consultation on the Hogan Cedars Dam habitat restoration project. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: 1) The amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or 4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

2. INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.1 Amount or Extent of the Take

The NMFS anticipates that the action covered by this Opinion has more than a negligible likelihood of resulting in incidental take of LCR chinook and LCR steelhead because of detrimental effects from increased sediment and pollutant levels (non-lethal), riparian habitat disturbance (non-lethal), and the capture and release of any juvenile fish necessary to isolate the in-water work area (lethal and non-lethal).

Effects of actions such as minor sedimentation and minor riparian disturbance are unquantifiable in the short term, and are not expected to be measurable as long-term harm to habitat features or by long-term harm to salmonid behavior or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the biological report, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the habitat altering actions covered by this Opinion. The extent of the take includes the aquatic and associated riparian habitats affected by the dam removal, extending upstream to the edge of disturbance, and downstream 100-feet.

Effects of isolating the work area from the flowing waters of Johnson Creek could result in minor incidental lethal take of LCR chinook salmon and LCR steelhead. NMFS anticipates that incidental take of up to 20 juvenile LCR chinook salmon and 20 juvenile LCR steelhead could

occur as a result of isolating the work area as described in this Opinion. The extent of the take is limited to LCR chinook salmon and LCR steelhead in Johnson Creek.

2.2 Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species.

1. Minimize the likelihood of incidental take from dam removal by timing the completion of all in-water work as necessary to avoid harming vulnerable salmon life stages, and by ensuring that the in-water work areas is isolated from flowing water.

2. Minimize the likelihood of incidental take from sedimentation and chemical contamination by ensuring that effective erosion and pollution control measures are developed and carried out.

3. Minimize the likelihood of incidental take from disturbance of riparian habitats by ensuring that disturbance is limited to minimum necessary to complete the project and that the site is fully revegetated with native species.

4. Carry out a comprehensive monitoring and reporting program to ensure these conservation measures are effective in minimizing the likelihood of take from permitted activities and that the proposed mitigation actions are performing adequately.

2.3 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the COE must comply with the following terms and conditions, which carry out the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement Reasonable and Prudent Measure #1 (dam removal), the COE shall ensure that:
   a. In-water work timing. All work within the active channel will be completed within the ODFW approved in-water work period.[2] Any changes to this timing must first be approved in writing by a NMFS biologist.
   b. Fish passage. All necessary steps will be taken to ensure that adult and juvenile salmonid species will be able to pass freely through the project reach after project

[2] Oregon Department of Fish and Wildlife, *Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, 12 pp (June 2000)(identifying work periods with the least impact on fish)(http://www.dfw.state.or.us/ODFWhtml/InfoCntrHbt/0600_inwtrguide.pdf).

completion (see, e.g., ODFW guidelines and criteria for stream-road crossings[3]). Channel modifications which could adversely affect fish passage are not authorized by this Opinion.

c. Isolation of in-water work area. During in-water work, the work area is well isolated from the active flowing stream within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment.

i. Dewatering. Any pump or water intake used to dewater the work isolation area must have a fish screen installed, operated and maintained in accordance with NMFS' fish screen criteria.[4]

(1) All water pumped from the work isolation area will be discharged into an upland area providing over-ground flow before returning to the creek in a way that will not cause erosion.

(2) Discharges into potential fish spawning areas or areas with submerged vegetation are prohibited.

ii. Seine and release. Before and intermittently during dewatering of the work isolation area, attempts will be made to seine and release fish from the work isolation area as is prudent to minimize risk of injury.

(1) Seining will be conducted by or under the supervision of a fishery biologist experienced in such efforts and all staff working with the seining operation must have the necessary knowledge, skills, and abilities to ensure the safe handling of all ESA-listed fish.

(2) ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during seining and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.

(3) Seined fish must be released as near as possible to capture sites.

(4) The transfer of any ESA-listed fish from the applicant to third-parties other than NMFS personnel requires written approval from the NMFS.

(5) The applicant must obtain any other Federal, state, and local permits and authorizations necessary for the conduct of the seining activities.

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[3] Appendix A, Oregon Department of Fish and Wildlife Guidelines and Criteria for Stream-Road Crossings, in: G.E. Robison, A. Mirati, and M. Allen, *Oregon Road/Stream Crossing Restoration Guide: Spring 1999* (rules, regulations and guidelines for fish passage through road/stream crossings under the Oregon Plan) (http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/orfishps.htm).

[4] Nation Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996)(guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) (http://www.nwr.noaa.gov/1hydrop/hydroweb/ferc.htm).

(6) The applicant must allow the NMFS or its designated representative to accompany field personnel during the seining activity, and allow such representative to inspect the applicant's seining records and facilities.

(7) A description of any seine and release effort will be included in a post-project report, including the name and address of the supervisory fish biologist, methods used to isolate the work area and minimize disturbances to ESA-listed species, stream conditions prior to and following placement and removal of barriers; the means of fish removal; the number of fish removed by species; the condition of all fish released, and any incidence of observed injury or mortality.

2. To implement Reasonable and Prudent Measure #2 (erosion and pollution control) above, the COE shall ensure that:

a. Pollution and erosion control plan. A Pollution and Erosion Control Plan (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations:

i. Methods that will be used to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.

ii. Methods that will be used to confine and remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.

iii. A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring.

iv. A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment.

v. Measures that will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.

b. Heavy Equipment. Heavy equipment use will be restricted as follows.

i. When heavy equipment is required, the applicant will use equipment having the least impact (e.g., minimally sized, rubber tired).

ii. Heavy equipment will be fueled, maintained and stored as follows.

(1) All equipment that is used for instream work will be cleaned prior to operations below the bankfull elevation. External oil and grease

will be removed, along with dirt and mud. No untreated wash and rinse water will be discharged into streams and rivers without adequate treatment.

(2) Place vehicle staging, maintenance, refueling, and fuel storage areas a minimum of 150-feet horizontal distance from any stream.

(3) All vehicles operated within 150-feet of any stream or water body will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.

(4) When not in use, vehicles will be stored in the vehicle staging area.

3. To implement Reasonable and Prudent Measure #3 (riparian habitat) above, the COE shall ensure that:

a. Native riparian vegetation is maintained and protected wherever possible, and nonnative vegetation replaced with species that occur naturally within the Johnson Creek watershed.

b. All plantings will be done within 30-days of completion of the project construction activities, or by September 30.

c. Plantings will be monitored for at least three years, and replaced if necessary, to ensure they are established and performing the function for which they were designed.

4. To implement Reasonable and Prudent Measure #4 (monitoring and reporting), the COE shall ensure that:

a. Monitoring: Construction. Within 30 days of completing the project, the applicant will submit a monitoring report to the COE describing the applicant's success meeting their permit conditions. This report will consist of the following information.

i. Project identification.

(1) Permit number;

(2) applicant's name;

(3) project name;

(4) project location by 5th field hydrological unit code (HUC) and latilong;

(5) starting and ending dates for work performed under the permit; and

(6) the COE contact person.

ii. Isolation of in-water work area. All projects involving isolation of in-water work areas must include a report of any seine and release activity including:

(1) The name and address of the supervisory fish biologist;

(2) methods used to isolate the work area and minimize disturbances to ESA-listed species;

(3) stream conditions prior to and following placement and removal of barriers;
(4) the means of fish removal;
(5) the number of fish removed by species;
(6) the location and condition of all fish released; and
(7) any incidence of observed injury or mortality.

iii. Pollution and erosion control. A summary of any pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.

iv. Site restoration. Documentation of the planting composition and density and a plan to inspect and, if necessary, replace failed plantings and structures for a period of three years.

v. A narrative assessment of the project's effects on natural stream function.

vi. Photographic documentation of environmental conditions at the project site before, during and after project completion.
(1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.
(2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
(3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

b. The monitoring report will be submitted to:

National Marine Fisheries Service
Oregon Habitat Branch
Attn: OSB2001-0102
525 NE Oregon Street, Suite 500
Portland, OR 97232

NOTICE. If a dead, injured, or sick endangered or threatened species specimen is located, initial notification must be made to the National Marine Fishery Service Law Enforcement Office, located at Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661; phone: 360/418-4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death.

In conjunction with the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the

responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

3. MAGNUSON-STEVENS ACT

3.1 Background

The objective of the Essential Fish Habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NMFS on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and ``spawning, breeding, feeding, or growth to maturity'' covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NMFS provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to

encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*)(PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (i.e., natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Action

The proposed action is detailed above, in section 2 of this Opinion. The proposed action area includes is defined as the streambed and streambank of Johnson Creek extending upstream to the edge of disturbance and extending downstream 100-feet, and the staging areas, access roads, and upland disposal sites. The proposed action area encompasses the Council-designated EFH for all the life stages of chinook (*Onchorhynchus tshawytscha*) and for coho (*Onchorhynchus kisutch*) salmon.

3.5 Effects of the Proposed Action

As described in detail in sections 1 and 2, above, the proposed activities may result in short-term degradation and long-term improvement of essential salmonid habitat. These impacts include:

1. Temporary increases in sediment and turbidity as a result of dam removal activities.

2. Temporary, short-term loss of riparian function as non-native vegetation is removed and replaced with native vegetation.

3. Permanent, long-term improvement in EFH as the removal of a fish passage barrier opens up habitat for use by coho and possibly chinook salmon.

3.6 Conclusion

The NMFS believes that the proposed action may adversely effect the EFH for chinook and coho salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. The conservation measures proposed for the project by the COE, and all of the Reasonable and Prudent Measures and the Terms and Conditions contained in Sections 2.2 and 2.3 are applicable to salmon EFH. Therefore, NMFS incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the Federal agency to provide a written response to NMFS after receiving EFH conservation recommendations within 30 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NMFS, the agency must explain its reasons for not following the recommendation.

3.9 Consultation Renewal

The COE must reinitiate EFH consultation with NMFS if the action is substantially revised or new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR Section 600.920[k]).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

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